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Docket No. 50-255

July 17, 1986

MEMORANDUM FOR: Charles E. Norelius, Director
 Division of Reactor Projects
 Region III

FROM: Ashok C. Thadani, Director
 PWR Project Directorate #8
 Division of PWR Licensing-B

SUBJECT: PALISADES PLANT - AMENDMENT REQUEST TO INCREASE
 ALLOWABLE QUANTITY OF SOURCE MATERIAL

By application dated June 20, 1986, Consumers Power Company requested a change to the license condition for allowable Cs-137 quantities to 1000 Ci. As part of our evaluation of the acceptability of this increase, we ask that you provide us with input on the Palisades Health Physics Program as it might relate to handling and use of these stronger sources. The largest single source is 400 Ci. We would appreciate your experience in monitoring and inspecting Palisades with regard to the H. P. qualifications, any overexposures related to source use, source accountability, and anything in this area that should be the subject of programmatic upgrading, if any. In order to try to meet the licensee's request for urgency, we would appreciate a reply by August 30, 1986.

A copy of the application is enclosed. The TAC No. for this task is 61848.

/S/

Ashok C. Thadani, Director
 PWR Project Directorate #8
 Division of PWR Licensing-B

Enclosure:
 As stated

cc w/enclosure:
 L. R. Greger, Region III

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CONSUMERS
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**POWERING
MICHIGAN'S PROGRESS**

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-1636

Kenneth W Berry
Director
Nuclear Licensing

June 20, 1986

Director,
Nuclear Reactor Regulation
US Nuclear Regulatory Commission
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
LICENSE AND TECHNICAL SPECIFICATIONS CHANGE REQUEST -
ALLOWABLE QUANTITY OF SOURCE MATERIAL

Attached are three (3) originals and thirty-seven (37) conformed copies of a request to change the Palisades Provisional Operating License DPR-20 and the Palisades Technical Specifications. The attached proposal requests a change to the allowable quantity of Cesium-137 as a sealed calibration source specified in the Palisades Provisional Operating License. An increase in this limit is required to allow possession of sealed sources for calibration of high range radiation detection instruments. The addition of the Cesium-137 calibration source is to fulfill a commitment to INPO. Since the receipt of this additional source is dependent upon approval of the requested License amendment we ask for prompt NRC action to approve this change.

The proposal also requests the addition of new technical specifications that describe the leak test requirements for sealed sources. The additional requirements are adopted from those provided in the CE Standard Technical Specifications (NUREG-0212, rev. 2) section 3/4.7.10. A revised Table of Contents and correction of a typographical error are also included in this request.

In a letter dated January 24, 1975, to Consumers Power Company, Big Rock Point Docket 50-155, D L Ziemann, NRC, described improvements that could be made to the license in regard to special nuclear, byproduct, and source materials. Enclosed with the letter were standardized requirements which removed reference to specific quantities of the materials. The standardized requirements were suggested to licensees to circumvent the need for issuing, on a priority basis, a license amendment when the required quantities of on-site material were to be changed. The License Change Request herein does

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Director, Nuclear Reactor Regulation
Palisades Plant
License & TSCR - Source Material
June 20, 1986

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not incorporate these requirements however it is our intent to submit an appropriate License Change Request in the near future that will be consistent with these requirements.

A check in the amount of \$150.00 is enclosed as required by 10CFR170.21.

Kenneth W Berry

Kenneth W Berry
Director, Nuclear Licensing

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachment

CONSUMERS POWER COMPANY
Docket 50-255
Request for Change to the Provisional Operating License DPR-20
and the Technical Specifications

For the reasons hereinafter set forth, it is requested that the Provisional Operating License DPR-20, and the Technical Specifications, Docket 50-255, issued to Consumers Power Company on October 16, 1972, for the Palisades Plant be changed as described in Section I below:

I. Changes:

A. Change item 2(C) of the Provisional Operating License to read:

"C. Pursuant to the Act and 10CFR30, "Rules of General Applicability of Licensing of Byproduct Material", to receive, possess, and use in connection with operation of the facility 1500 curies of Polonium-210 as two sealed sources not to exceed 750 curies each, 1000 curies of Cesium-137 as multiple sealed calibration sources and up to 500 millicuries per nuclide of any byproduct material with Atomic Numbers 3 to 83, inclusive, without restriction to chemical and physical form to a total of 10 curies;"

B. Revise the Table of Contents to remove deleted section 3.1.9, add Listing of Tables and Figures, add section 6.2.1 Sealed Source Contamination, and make miscellaneous corrections.

C. Revise Table 3.17.4 note (g) to read:

"(g) Calculate the Quadrant Power Tilt using the excore readings at least once per 12 hours when the excore detectors deviation alarms are inoperable."

D. Add a new Section 6.21 to read:

"6.21 SEALED SOURCE CONTAMINATION

6.21.1 Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material shall be free of greater than or equal to 0.005 microcuries of removable contamination.

6.21.2 With a sealed source having removable contamination in excess of 0.005 microcuries, immediately withdraw the sealed source from use and either:

1. Decontaminate and repair the sealed source, or

2. Dispose of the sealed source in accordance with applicable regulations.
- 6.21.3 Each category of sealed sources as described in 6.21.1 (excluding startup sources and fission detectors previously subjected to core flux) with a half-life greater than 30 days (excluding Hydrogen-3), and in any other form than gas, shall be tested for leakage and/or contamination at intervals not to exceed six months.
- 6.21.4 The test shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State. The test method shall have a detection sensitivity of at least 0.005 microcuries per test sample.
- 6.21.5 The test sample shall be taken from the sealed source or, in the case of permanently mounted sources, from the surfaces of the mounting device on which contamination would be expected to accumulate.
- 6.21.6 The periodic leak test does not apply to sealed sources that are stored and not being used. These sources shall be tested prior to use or transfer to another licensee, unless tested within the previous six months. Sealed sources which are continuously enclosed within a shielded mechanism (ie, sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.
- 6.21.7 Sealed sources transferred without a certificate indicating the last test date shall be tested prior to being placed in use.
- 6.21.8 A report shall be prepared and submitted to the Commission on an annual basis if sealed source leakage tests reveal the presence of greater than or equal to 0.005 microcuries of removable contamination."

II. Discussion

The proposed change requests an increase in the possession limit for Cesium-137 as sealed sources. The change consolidates the individual listing of each Cesium-137 source into a single stated quantity. In addition, a new administrative section is requested to describe the leak test requirements for calibration sources. Also a typographical error that was incorporated in Amendment 96, 1/30/86 has been corrected in item I.C.

The increased Cesium-137 quantity limit is needed to allow the possession of a calibration source for high range radiation detection instruments. The source will allow the verification of the accuracy of these instruments on all measurement scales. This is a desirable

feature that can be expected to improve radiation protection capabilities.

The consolidation of the individual Cesium-137 sources into a single possession limit is intended to remove the need for further amendments.

The additional administrative requirements are based on the guidance provided in the Standard Technical Specifications. These requirements have been modified sufficiently for application to the Palisades Plant. The significant variations and other items of interest are as follows:

1. The proposed Section 6.21.5 includes provisions that allow for a test sample to be taken from the surface of a mounting device. This allowance was deemed necessary to limit the potential dose received from attempting to achieve direct access to these sources.
2. Current Technical Specifications provide record retention requirements for sealed source leak tests in Section 6.10.1(i).

Analysis of No Significant Hazards Considerations

Possession of byproduct materials is licensed under the requirements of 10CFR30. Typically, commercial nuclear plants have incorporated this byproduct license into the plant operating license. Inclusion in the operating license necessitates an application for an amendment to the byproduct license through a more restrictive process than that prescribed by 10CFR30.

A request to amend a 10CFR30 byproduct license does not require an analysis of the significant hazards considerations. As provided in 10CFR30.38, the application for amendment needs only to specify the desired changes and the grounds for the change. This information has been detailed in the preceding Sections I and II.

Although not required by 10CFR30, the significant hazards evaluation of this change is presented in support of the request for an amendment to the operating license. The effects of the additional administrative requirements are also presented. The analysis is as follows:

1. The requested changes do not result in an increase in the probability or consequences of a previously evaluated accident. The change affects the allowable quantity of Cesium-137 as sealed source material. The change also provides additional administrative requirements for the control of sealed sources. The types of occurrences that would result from sealed sources are not evaluated in the FSAR. Formal evaluation of these potential occurrences is not required to assure nuclear safety, and does not relate to nuclear safety or previously evaluated accidents.

- 2. The change does not create the possibility of a new or different kind of accident. The operating license previously authorized the possession of sealed sources. Potential occurrences from these sources were not required to be formally analyzed. An analysis remains unnecessary for this category of occurrence.


The administrative requirements provided by this proposal result in additional controls not presently included in the Technical Specifications. As such, these controls will enhance the radiation safety program and the control of sealed sources. Also, these requirements are not new in that the leak testing of sealed sources is an existing program. This request only results in further emphasis on the importance of this program.

- 3. The change does not result in a reduction in the margin of safety. The increased possession limit affects an aspect of plant operation that is unrelated to nuclear safety. The provisions for formalized leak testing requirements in conjunction with existing procedural controls are adequate to ensure no reduction in any type of radiological safety margin.

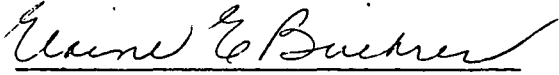
III. Conclusion

The Palisades Plant Review Committee has reviewed this Technical Specification Change Request and has determined that this change does not involve an unreviewed safety question and therefore involves no significant hazards consideration. This change has also been reviewed under the cognizance of the Nuclear Safety Board. A copy of this Technical Specification Change Request has been sent to the State of Michigan official designated to receive such Amendments to the Operating License.

CONSUMERS POWER COMPANY

By 
J.W. Reynolds, Vice President
 Energy Supply

Sworn and subscribed to before me this 20th day of June 1986.


Elaine E Buehrer, Notary Public
 Jackson County, Michigan
 My commission expires October 31, 1989

ATTACHMENT

Consumers Power Company
Palisades Plant
Docket 50-255

PROPOSED PAGES

PROPOSED TECHNICAL SPECIFICATIONS CHANGE REQUEST

ALLOWABLE QUANTITY OF SOURCE MATERIAL

June 20, 1986

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10 Pages

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555

CONSUMERS POWER COMPANY

(Palisades Plant)

DOCKET NO 50-255

PROVISIONAL OPERATING LICENSE

License No DPR-20

Provisional Operating License No DPR-20, issued to the licensee for operation of the facility, on September 1, 1972, is hereby amended in its entirety to read as follows:

1. Provisional Operating License No DPR-20 applies to the Palisades Plant, a pressurized, light water moderated and cooled reactor, and electric generating equipment (the facility). The facility is located in Covert Township on the Consumers Power site in Van Buren County, Michigan, and is described in the "Final Safety Analysis Report", as supplemented and amended.
2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Consumers Power Company (the licensee):
 - A. Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities", to possess, use and operate the facility as a utilization facility at the designated location;
 - B. Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material", to receive, possess and use 15,000 kilograms of Uranium-235 and 96 grams of encapsulated plutonium-beryllium in connection with operation of the facility;
 - C. Pursuant to the Act and 10 CFR Part 30, "Rules of General Applicability of Licensing of Byproduct Material", to receive, possess and use in connection with operation of the facility 1500 curies of Polonium-210 as two sealed sources not to exceed 750 curies each, 1000 curies of Cesium-137 as multiple sealed calibration sources and up to 500 millicuries per nuclide of any byproduct material with Atomic Numbers 3 to 83, inclusive, without restriction to chemical and physical form to a total of 10 curies;

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- (g) Calculate the Quadrant Power Tilt using the excore readings at least once per 12 hours when the excore detectors deviation alarms are inoperable.
- (h) With two flow rate indicators inoperable for a given control valve, the control valve shall be considered inoperable and the requirements of 3.5.2(e) apply.

- 6.21 SEALED SOURCE CONTAMINATION
- 6.21.1 Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material shall be free of greater than or equal to 0.005 microcuries of removable contamination.
- 6.21.2 With a sealed source having removable contamination in excess of 0.005 microcuries, immediately withdraw the sealed source from use and either:
1. Decontaminate and repair the sealed source, or
 2. Dispose of the sealed source in accordance with applicable regulations.
- 6.21.3 Each category of sealed sources as described in 6.21.1 with a half-life greater than 30 days (excluding Hydrogen-3), and in any other form than gas, shall be tested for leakage and/or contamination at intervals not to exceed six months.
- 6.21.4 The test shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State. The test method shall have a detection sensitivity of at least 0.005 microcuries per test sample.
- 6.21.5 The test sample shall be taken from the sealed source or, in the case of permanently mounted sources, from the surfaces of the mounting device on which contamination would be expected to accumulate.
- 6.21.6 The periodic leak test does not apply to sealed sources that are stored and not being used. These sources shall be tested prior to use or transfer to another licensee, unless tested within the previous six months. Sealed sources which are continuously enclosed within a shielded mechanism (ie, sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.
- 6.21.7 Sealed sources transferred without a certificate indicating the last test date shall be tested prior to being placed in use.
- 6.21.8 A report shall be prepared and submitted to the Commission on an annual basis if sealed source leakage tests reveal the presence of greater than or equal to 0.005 microcuries of removable contamination.